GX-747

STEREO TAPE DECK

Notes:
- This manual is applicable to both silver and black panel models.
- Supply reel and tape shown in photograph not included in standard accessories.

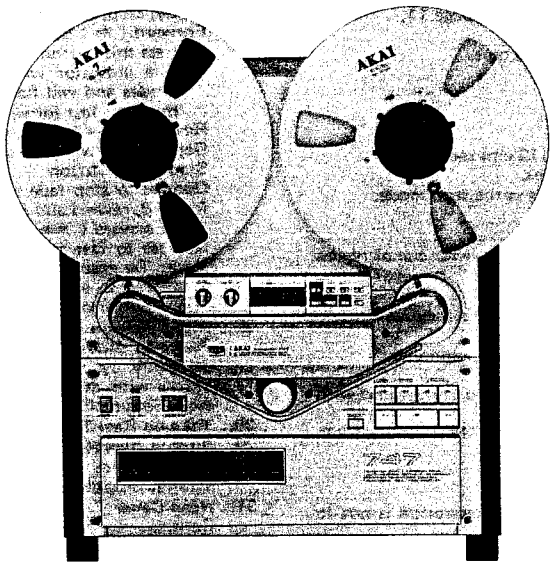
Remarques:
- Ce manuel s'applique aussi aux modèles avec panneaux argent et noir.
- La bande et la bobine sur la photo ne sont pas comprises dans les accessoires standards.

Opmerkingen:
- Deze gebruiksaanwijzing is van toepassing op modellen met zilver en zwart paneel.
- De afgebeelde aanvoerspoel met tape behoort niet tot het standaardtoebehoren.

Anmärkningar:
- Bruksanvisningen gäller både för modellen med silverpanel och modellen med mattsvart panel.
- Matarspolen och bandet på bilden tillhör inte standard tillbehören.

Anmerkungen:
- Diese Betriebsanleitung gilt auch für die Ausführung mattsilber und mattschwarz.
- Der auf dem Foto abgebildete Ablaufbandspule und das Band sind im Standardzubehör nicht enthalten.

Notas:
- Este manual cubre ambos modelos, el de panel plateado y el de panel negro.
- El carrete de suministro y la cinta mostrados en la fotografía no están incluídos como accesorios estándar.



WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

Operator's Manual
Manuel de l'utilisateur
Gebruiksaanwijzing
Bruksanvisning
Bedienungsanleitung
Manual del usuario

AKAI

CONTROLS

1. **Built-in Reel Retainer**
2. **Supply Reel Table**
3. **MEMORY REVERSE Indicator**
   Lights during Memory Auto Reverse or Auto Set Reverse operation.
4. **Left Tension Arm (Sensing Pin)**
   Prevents sudden pressure on the tape and allows it to travel smoothly by automatically maintaining the correct tape tension. If the tape is too loose or not in the correct position, the Auto Stop Mechanism will stop the tape. This Tension Arm also functions as the Reverse Sensing Pin. The Left and Right Tension Arm work together.
5. **PITCH CONTROL**
   For playback tape speed adjustment (range ±6% at 7-1/2 in/sec or 3-3/4 in/sec tape speed). Set to the center click position for tapes recorded with this deck and for normally recorded tapes. Also set to the center click position during recording.
6. **Reverse (REV) SELECTOR**
   —→: For one-way (forward or reverse) recording or playback.
   ⇉: For one-cycle (forward to reverse) recording or playback.
   ⇆: For continuous playback. Recording will take place as in mode ⇉.
   * Automatic stop will be effected at the end of reverse recording.
7. **Electronic Digital Real Time Counter (HOUR/Minute (MIN)/Second (SEC) display)**
   Indicates the quantity of tape used in real time. Accurate time is not indicated if the TAPE SPEED selector is switched during operation. The Counter shows time from "0:00:00" to "5:59:59".
8. **Auto Time Counter System**
   Refer to AUTO TIME COUNTER SYSTEM on page 11.
9. **Pinch Roller**
   Presses against the capstan to transport the tape.
10. **POWER Switch**
    Depress to turn on the power.
    Depress again to turn off the power.
11. **REEL SIZE Selector**
    7 in: When using 7 in (17 cm) or 5 in (12 cm) reels.
    10 in: When using 10-1/2 in (26 cm) reels.
    * Set the selector only when the deck is in the stop mode.
    * Use reels of same size on both sides.
12. **CUE/REVIEW Lever (PUSH OFF)**
    Slide and lock the lever in the direction of arrow for cue or review operation.
13. **LED Bar Meter (L: left, R: right)**
    Shows the left and right channel recording and playback levels.
14. **Headphone (PHONES) Jack**
    Accommodates 8 ohm impedance type stereo headphones.
15. **OUTPUT Control**
    Adjusts line or headphone output levels. Set to correspond with the external amplifier input.
    * Refer to HOW TO USE THE OUTPUT CONTROL on page 11.
    * Not interconnected with the LED Bar Meter.
16. **TIMER START Selector**
    REC: For absentee recording.
    OFF: For all other times when Timer Start operation is not to be engaged.
    PLAY: For timed playback.
17. **MONITOR Selector**
    TAPE: To monitor the just recorded signals or during playback.
    SOURCE: To monitor the source signals.
18. **TAPE SPEED Selector**
    7-1/2 in: For 7-1/2 in/sec (19 cm/sec) tape speed.
    3-3/4 in: For 3-3/4 in/sec (9.5 cm/sec) tape speed.
    * Refer to TAPE RECORDING TIME on page 6.
    * Set only during stop mode.
19. **TAPE SELECTOR**
    NORMAL: For low noise and wide range tapes.
    EE: For Extra Efficiency tapes.
    * Refer to STANDARD REFERENCE AND RECOMMENDED TAPES on page 6.
20. **"L" and "R" TRACK SELECTORs**
    "L" ON, "R" ON: For stereo recording or playback.
    "L" ON, "R" OFF: For monaural recording or playback on track 1 → 4.
    "L" OFF, "R" ON: For monaural recording or playback on track 3 → 2.
    "L" OFF, "R" OFF: Never set to this position.
21. **BIAS Adjustment (ADJUST) Control**
    Adjusts within ±30% the bias according to the type of tape used.
    * Refer to BIAS ADJUSTMENT on page 6.
22. **Microphone (MIC) Jacks (MIC-L: left, MIC-R: right)**
    Plug in a microphone(s) for microphone recording.
23. **LINE Recording Level Controls with Memory Marker (L: left ⊰ R: right)**
    Adjust recording input levels for line input. The outer ring controls the right channel recording input level and the inner knob controls the left channel recording input level. The controls are coaxial, therefore they may be adjusted independently or together.
    * Coaxial controls and enumerated positions facilitate easy fade-in (gradual increase in volume at the beginning of a musical selection) and fade-out (gradual decrease in volume at the end) recording operation. Set the Memory Marker to the optimal recording level for effective fade-in and fade-out operations.
24. **Microphone (MIC) Recording Level Controls with Memory Marker (L: left ⊰ R: right)**
    Adjust recording input level for microphone input. Refer to above for operation.
    * The controls also control the DIN input level if the model is equipped with a DIN jack.
25. **AUTO MUTE Button**
    When this button is engaged during recording, the recording amp circuit will be brought into a no-signal mode. No recording will be made on the tape.
26. **Operating Buttons**
    Recording [REC (●)] Button with Indicator
    Depress this button and the PAUSE (❚❚) button simultaneously to put the deck into recording standby mode.
    * The indicator will light during recording standby and recording modes.

    PAUSE (❚❚) Button with Indicator
    Depress this button to momentarily suspend tape travel.
    * Does not function during fast forward and rewind modes.
    * The indicator will light to confirm the pause mode.

    Reverse (◄) Button with Indicator
    Depress this button for reverse recording or playback.
    * The indicator will remain lit during recording and playback modes and will flash on and off during pause, recording standby, stop, fast forward and rewind modes.

    Forward (►) Button with Indicator
    Depress this button for forward recording or playback.
    * The indicator will remain lit during recording and playback modes and will flash on and off during pause, recording standby, stop, fast forward and rewind modes.

    Rewind (◄◄) Button
    Depress to rewind the tape in the direction of the arrows.
    Stop (■) Button
    Depress to stop tape travel and to cancel recording, playback, fast forward, rewind and pause modes.
    Fast Forward (►►) Button
    Depress to fast forward the tape in the direction of the arrows.
    Note: To ensure stable operation of the timer start mechanism, please allow about 5 seconds to elapse after switching the power on and before pressing the operation buttons.
27. **Right Tension Arm (Sensing Pin)**
    Prevents sudden pressure on the tape and allows it to travel smoothly by automatically maintaining the correct tape tension. Works with the Auto Stop Mechanism and functions as the Forward Sensing Pin.
28. **Take-up Reel Table**
29. **Built-in Reel Retainer**
30. **Guide Roller**
    Maintains stable tape travel.
31. **Head Cover**
    Contains the heads in the order of forward erase head, forward GX recording head, forward GX playback head, reverse erase head, reverse GX recording head, and reverse GX playback head.
32. **Guide Roller**
    Maintains stable tape travel and works in conjunction with the Counter.
33. **REMOTE Jack**
    Connect the optional accessory Remote Control Unit RC-21 for remote control operation.
34. **INPUT Jack**
    Connect the AC Adaptor MP-515 for memory back-up power supply. Power will be supplied to the timer memory even when the power to the deck is turned off.
    * Turn on the power before connecting the Adaptor.
    * The deck may malfunction if the Adaptor is disconnected and then connected too often.
35. **LINE IN Jacks**
    Connect to the outputs of an external amplifier or tape deck or recorder.
36. **DIN Jack (Not on some models)**
    Can be used instead of the LINE IN and OUT jacks for connection with an external amplifier through a DIN connection cord.
37. **LINE OUT Jacks**
    Connect to the inputs of an external amplifier or tape deck or recorder.
38. **Power Cord**
    (Some models are equipped with an AC Inlet instead. Connect with the connection cord supplied and set the Voltage Selector below it to the voltage for your area.)

Operator's Manual

VARNING

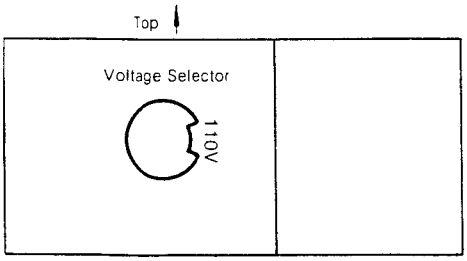
'OWER REQUIREMENTS

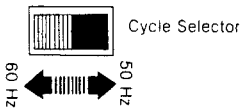
'ower requirements for electrical equipments differ from rea to area.
'lease ensure that your machine meets the power requirenents in your area.
f in doubt, consult a qualified electrician.
20V, 60 Hz for USA and Canada
:20V, 50 Hz for Europe except UK
:40V/50 Hz for UK and Australia
10V/120V/220V/240V, 50/60 Hz internally switchable .or other countries.

VOLTAGE SELECTION

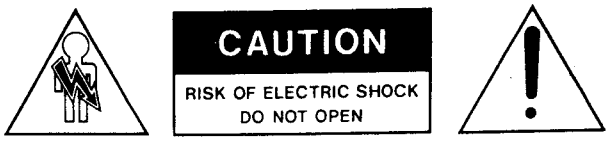
)o not attempt this conversion yourself.
Voltage conversion (Models for Canada, USA, Europe, UK and Australia are not equipped with this facility). Each machine is preset at the factory according to destination, but some machines can be set to 110V, 120V, 220V or 240V as required. If your machine's voltage can be converted, refer the following voltage conversion to a qualified Service Repair Shop or professional service personnel.

1. Disconnect the Power Cord.
2. Loosen the holding screws and feet with a screwdriver and remove the back panel.
3. Remove the Voltage Selector plug and reinsert so that the proper area voltage shows through the plug cut-out.
4. Set the Cycle selector located on the right side of the Sys. Con. P.C. Board according to the power source frequency for your area.





This equipment confirms to No. 76/889/EEC.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

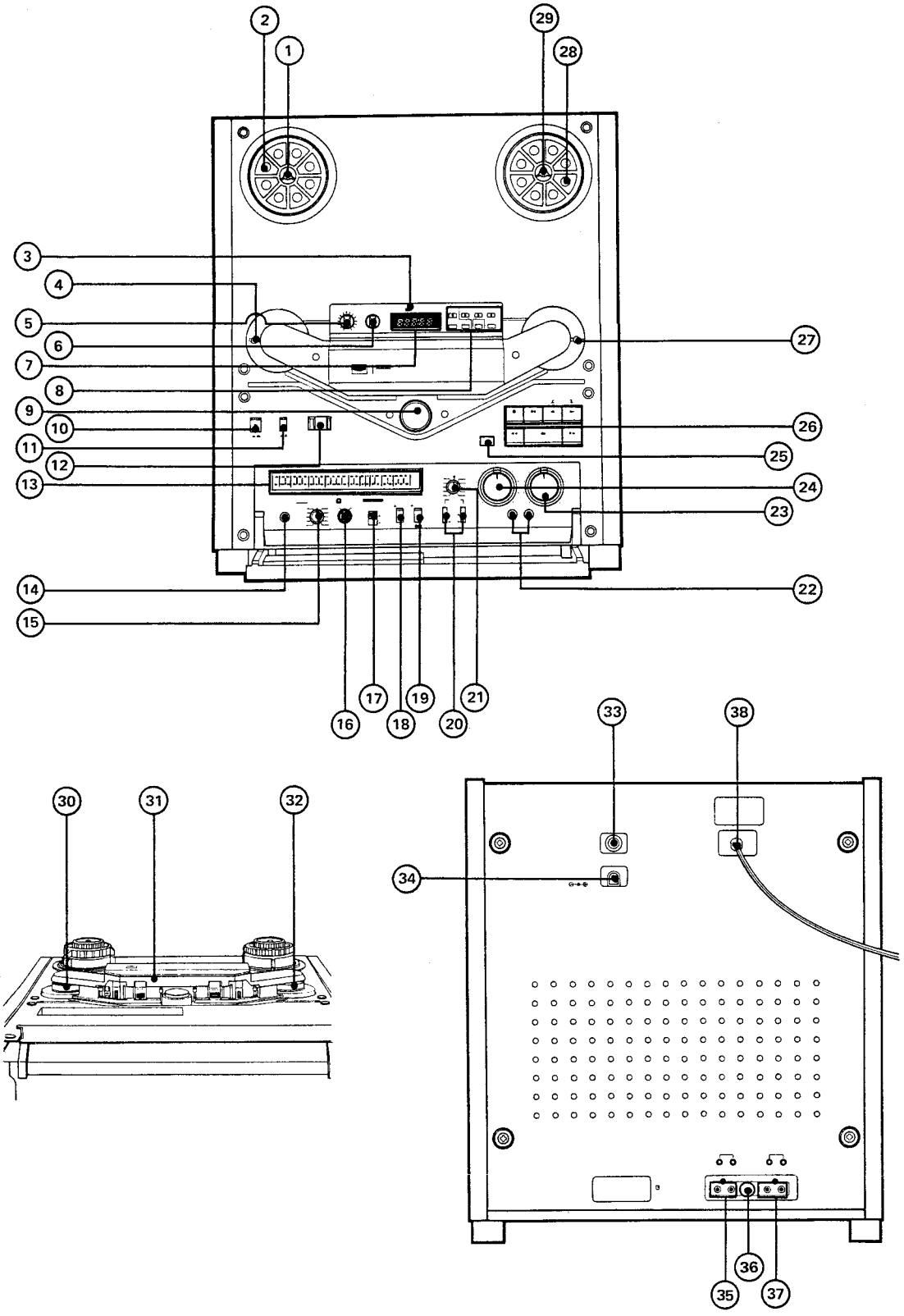
- The lightning flash with arrowhead symbol superimposed across a graphical representation of a person, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's encloure ; that may be of sufficient magnitude to constitute a risk of electric shock to persons.

- The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

PRECAUTIONS

1. Use only household AC power sources.
   Never use DC power sources.
2. Touching the plug with wet hands risks dangerous electric shocks.
   Always pull out by the plug and never the cord.
3. Make sure the power consumption of each audio component does not exceed wattage specified.
   Only connect other audio components.
4. Only let a qualified professional repair or reassemble the equipment. An unauthorized person may touch the internal parts and receive a serious electric shock.
5. Never allow a child to put anything, especially metal into this equipment. A serious shock or malfunction may occur.
6. If water is spilled on this equipment, disconnect and call your dealer.
7. Make sure the equipment is well ventilated and away from direct sunlight.
8. Keep away from heat (stoves, etc.) to avoid damage to the external surface and internal circuits.
9. Avoid spray-type insecticides which will damage the equipment and may ignite suddenly.
10. To avoid damaging the finish never use alcohol, paint thinner or other similar chemicals.
11. Always place the equipment on a flat and solid surface.
12. As the deck is quite heavy please be careful when handling the deck.
13. Please read this manual in its entirety and keep it handy for further reference.

CONTROLS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FOR CUSTOMERS IN THE UK

IMPORTANT FOR YOUR SAFETY

The flex supplied with your machine will have either two wires or three as shown in the illustrations.

THREE CORE FLEX

WARNING

THIS APPARATUS MUST BE EARTHED

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

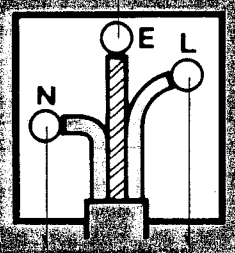
Green-and-yellow: Earth
Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or coloured green-and-yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.



TWO CORE FLEX

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

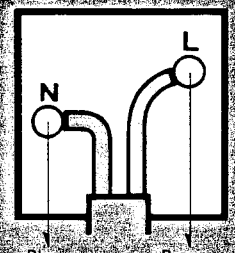
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

* Do not connect any wire to the larger pin marked E or ⏚ when wiring a plug.

Ensure that all terminals are securely tightened and that no loose strands of wire exist.

PLUG



FOR CUSTOMERS IN AUSTRALIA

If your machine comes with a three core power cord, FOR YOUR SAFETY:

1. Insert this plug only into an effectively earthed three-pin plug socket outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cords, if used, must be three-core correctly wired.

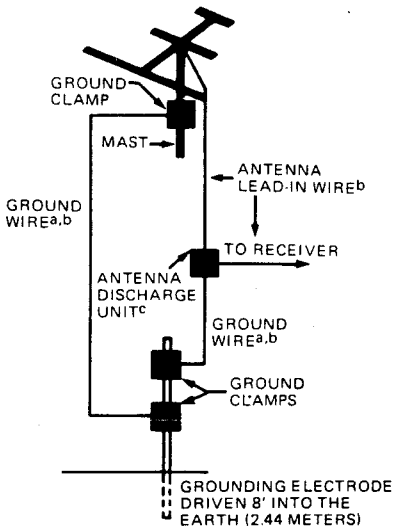
FOR CUSTOMERS IN THE U.S.A.

SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the equipment is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the equipment and in the operating instructions should be adhered to.
4. Follow Instructions – All instructions for operating and use should be followed.
5. Water and Moisture – The equipment should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. Carts and Stands – The equipment should be used only with a cart or stand that is recommended by Akai.
7. Wall or Ceiling Mounting – Akai does not recommend mounting the equipment on a wall or a ceiling.
8. Ventilation – The equipment should be situated so that its location or position does not interfere with its proper ventilation. For example, the equipment should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The equipment should be situated away from heat sources such as radiators, heat registers, stoves, or other equipments (including amplifiers) that produce heat.
10. Power Sources – The equipment should be connected to a power supply only of the type described in the operating instructions or as marked on the equipment.
11. Grounding or Polarization – The precautions should be taken so that the grounding or polarization means of an equipment is not defeated.
12. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the equipment.
13. Cleaning – The equipment should be cleaned only as recommended by the manufacturer.
14. Power Lines – An outdoor antenna should be located away from power lines.
15. Outdoor Antenna Grounding – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70–1981, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.
16. Nonuse Periods – The power cord of the equipment should be unplugged from the outlet when left unused for a long period of time.
17. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
18. Damage Requiring Service – The equipment should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the equipment; or
    C. The equipment has been exposed to rain; or
    D. The equipment does not appear to operate normally or exhibits a marked change in performance; or
    E. The equipment has been dropped, or the enclosure damaged.
19. Servicing – The user should not attempt to service the equipment beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Fig. 1

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS



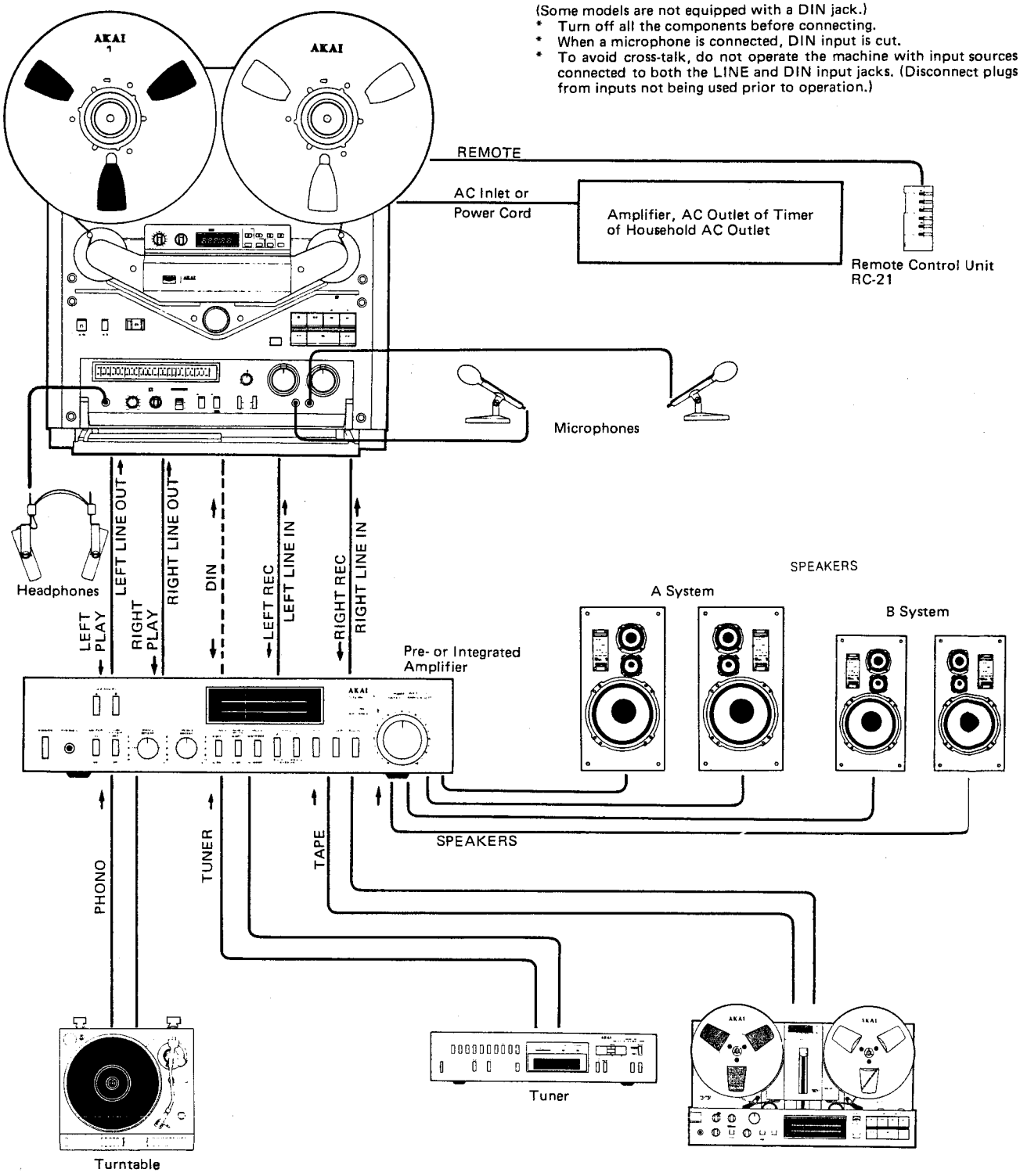
a. Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) aluminum, No. 17 AWG (1.0 mm²) copper-clad steel or bronze wire, or larger, as ground wire.
b. Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 m) to 6 feet (1.83 m) apart.
c. Mount antenna discharge unit as close as possible to where lead-in enters house.

CONNECTIONS

FOR RECORDING AND PLAYBACK

(Some models are not equipped with a DIN jack.)

* Turn off all the components before connecting.
* When a microphone is connected, DIN input is cut.
* To avoid cross-talk, do not operate the machine with input sources connected to both the LINE and DIN input jacks. (Disconnect plugs from inputs not being used prior to operation.)



TAPE CARE

* As tapes which have not been used for a period of time may have become sticky, run the tape once before using.
* Heads should be kept clean and demagnetized at all times.
* Recording cannot be made on the leader tape. Therefore, when using a new tape, be sure to forward the tape so that the leader tape is not in the head path.
* Tapes which have been stored in a hot moist place for a period of time or tapes with bent reel should not be used. Such tapes may curl or have greasy places altering tape speed and preventing proper performance. Always store the tapes in a cool dry place.
* Do not touch the inner part of the tape with your fingers as signal drop-out will occur.
* Full care must be taken when handling thin tapes (200% and above: e.g., when tapes of 2,400 ft (740 m) length is used with 7 inch reels).
* Long-period storage of tapes that was taken up in a fast forward or rewind mode will cause damage to the tape, leading to unexpected troubles or will make them unfit for use. Therefore, the tapes should be stored in a condition as taken up in an orderly manner with the tape traveling at the fixed speed of recording or playback. However, either rewind or fast forward the entire tape before using the tape after storage.

STANDARD REFERENCE AND RECOMMENDED TAPES—

- The equalizer circuit adjusts according to the magnetic characteristics of the tape in use and it is therefore important to set the TAPE SELECTOR to the correct position.

EE EXTRA EFFICIENCY

This desk can be set for EE tapes. When using EE tapes, set the TAPE SELECTOR to the EE position and during recording set the BIAS ADJUST control to "0".

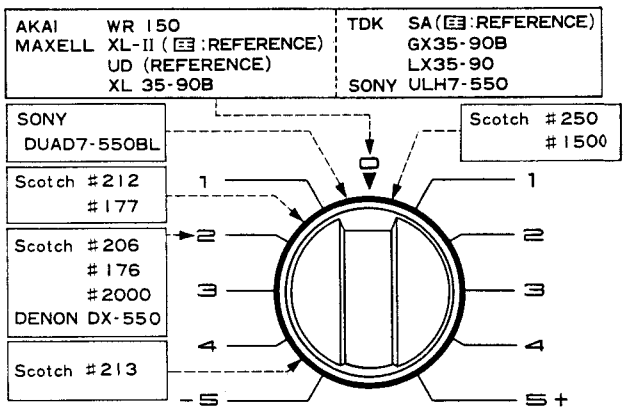
TAPE SELECTOR / BRAND	NORMAL	EE
AKAI	LN, WR	
SCOTCH	# 176, # 177, # 206, # 207, # 211, # 212, # 213, # 218, # 250, # 1500, # 2000, CL	
SONY	ULH, DUAD, PR-150, SLH, SLH-BL, FeCr	
TDK	GX, LX, T, AUDUAL, AUDUA, LB	SA*
MAXELL	LN, UD*, XL, UDXL	XL II*
BASF	LH, LN, LHS	
DENON	DX	
FUJI	FM, FG, FB	

* 150% type (550 m) tapes with this mark are the standard reference tapes.
Each tape position is set according to the standard reference tape.

BIAS ADJUSTMENT

- This deck is equipped with a BIAS Adjustment (ADJUST) control which can adjust the bias by ±30% at each tape position.
- When recording with standard reference tapes, set to "0".
- When recording with tapes not included in the list, set to "0".
- When recording with EE tapes, set to "0".
- When set to the most extreme right or left position, changes in frequency characteristics will occur.

BRAND	TAPE	Position	BRAND	TAPE	Position
A K A I	WR-150	0	Scotch	# 212	−1.5
MAXELL	XL II (EE:REFERENCE)	0		# 213	−4.5
	UD (REFERENCE)	0		# 206	−2.0
	XL 35-90B	0		# 250	+0.5
T D K	SA (EE:REFERENCE)	0		# 176	−2.0
	GX35-90B	0		# 1500	+0.5
	LX35-90	0		# 2000	−2.0
S O N Y	ULH7 550	0		# 177	−1.5
	DUAD7-550BL	−0.5			
D E N O N	DX-550	−2.0			



TAPE RECORDING TIME

Marketed tapes are of various lengths including those of 1,100m (3,600 ft.) 740m (2,400 ft.), 550m (1,800 ft.) and 370m (1,200 ft.). Since this machine offers two choices of tape speed, 7-1/2 ips (19 cm/sec) and 3-3/4 ips (9.5 cm/sec), by the TAPE SPEED selector, please refer to the following list for the recording time.

4-TRACK 2 CHANNEL STEREO RECORDING (PLAYBACK) SYSTEM

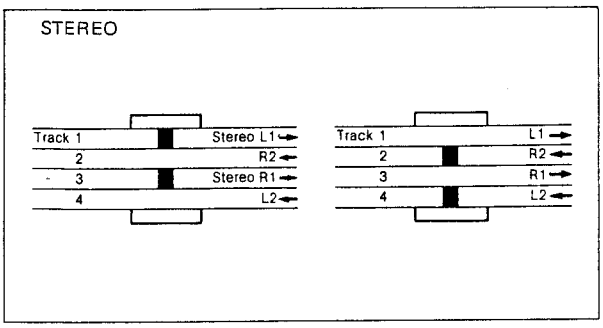
Tape Speed \ Tape Length		1,100m (3,600ft)	740m (2,400ft)	550m (1,800ft)
7-1/2 in (19 cm/sec)	One-way	90 min.	60 min.	45 min.
	Two-way	180 min.	120 min.	90 min.
3-3/4 in (9.5 cm/sec)	One-way	180 min.	120 min.	90 min.
	Two-way	360 min.	240 min.	180 min.

4-TRACK MONAURAL RECORDING (PLAYBACK) SYSTEM

Tape Speed \ Tape Length		1,100m (3,600ft)	740m (2,400ft)	550m (1,800)
7-1/2 in (19 cm/sec)	One-way	90 min.	60 min.	45 min.
	Two-way	180 min.	120 min.	90 min.
	Two-way+ one-way	270 min.	180 min.	135 min.
	Double two-way	360 min.	240 min.	180 min.
3-3/4 in (9.5 cm/sec)	One-way	180 min.	120 min.	90 min.
	Two-way	360 min.	240 min.	180 min.
	Two-way+ one-way	540 min.	360 min.	270 min.
	Double two-way	720 min.	480 min.	360 min.

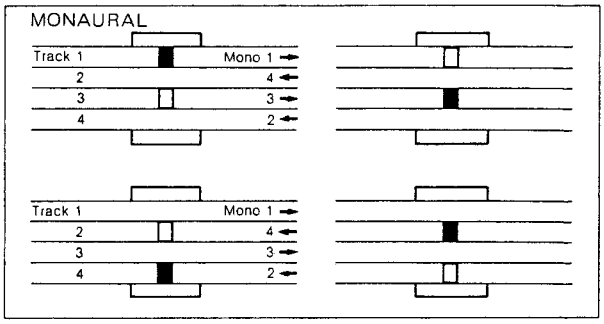
4-TRACK STEREO RECORDING AND PLAYBACK SYSTEM

Stereo recording/playback requires the simultaneous use of two tracks. For stereo recording/playback, set the "L" and "R" TRACK SELECTORs to ON positions. The first recording/playback takes place on tracks 1 and 3, and the second on tracks 2 and 4 after the Reverse (◄) button has been engaged.

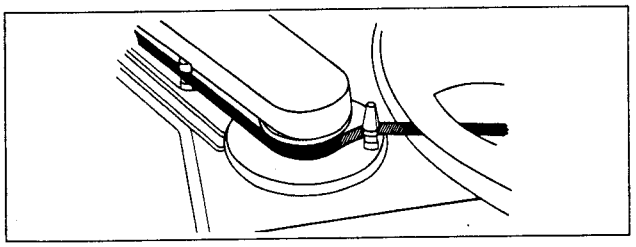


4-TRACK MONAURAL RECORDING AND PLAYBACK SYSTEM

4-track monaural recording sequence is 1-4-3-2. For monaural recording/playback, set the "L" TRACK SELECTOR to ON position and the "R" TRACK SELECTOR to OFF position. The first recording/playback takes place on track 1 and second on track 4 after the Reverse (◄) button has been engaged. For recording/playback on tracks 3 and 2, set the "L" TRACK SELECTOR to OFF position and the "R" TRACK SELECTOR to ON position. The third recording/playback takes place on track 3, and the fourth on track 2 after the Reverse button (◄) has been engaged.



PREPARATION FOR AUTOMATIC REVERSE



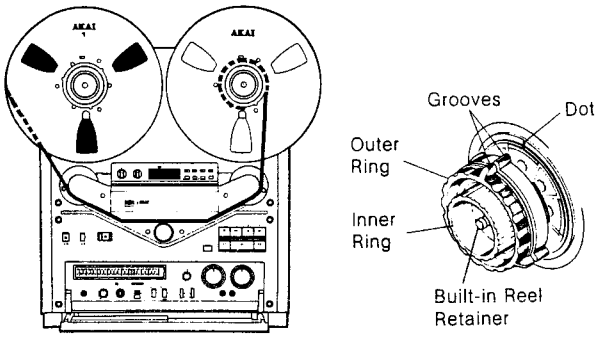
To change the direction of tape travel automatically, the following operations must be carried out:

One cycle forward to reverse recording or playback
Attach a 2.5 cm to 4 cm of standard accessory Sensing Tape to the back surface of the tape at a point where the direction is to be reversed. When the Sensing Tape comes in contact with the Left Tension Arm which also acts as a Sensing Pole, the direction of tape travel will automatically change.

Continuous playback
Attach two pieces of Sensing Tapes 2.5 cm to 4 cm in length to the back surface of the tape at two points: two points at which playback is to be repeated. When the Sensing Tape comes in contact with the Left or Right Tension Arm, the direction of tape travel will automatically change.

TAPE LOADING

* The power must be turned on during tape loading.



Using 7 in (17 cm) or 5 in (12 cm) reels

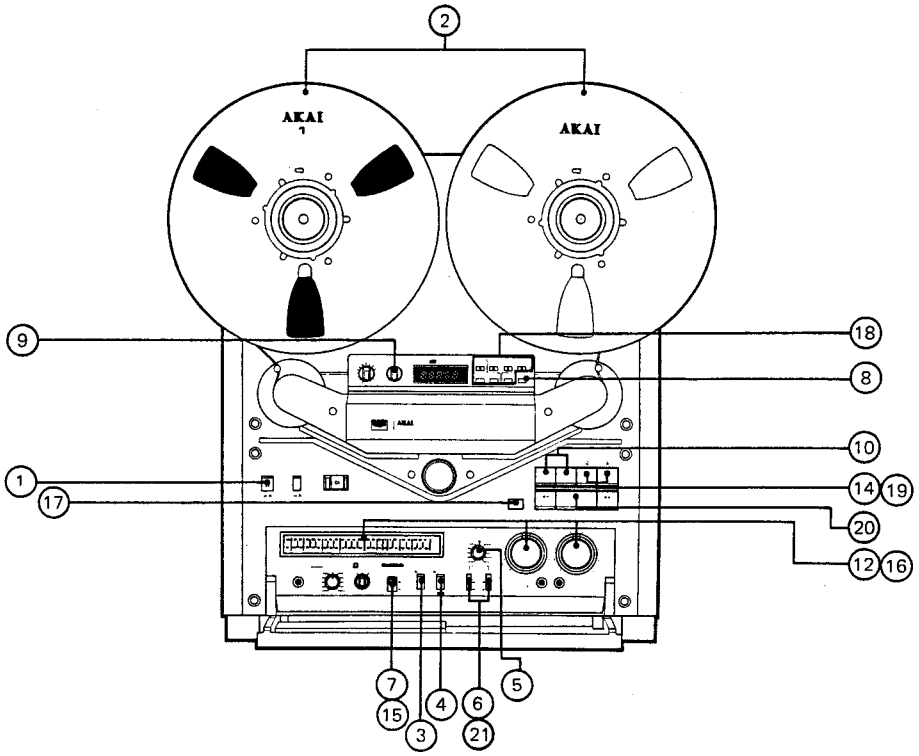
1. Place a full reel of tape on the Supply Reel Table and an empty reel of the same size on the Take-up Reel Table.
2. Lock both reels into place by pulling the tips of the Built-in Retainers outward and turning to left or right to lock the reels.
3. Unwind about 85 cm of tape from the Supply Reel and thread the tape as shown by the dotted line.
4. Insert the end of tape in the slot of the Take-up Reel and wind around the reel hub two or three times.
5. Continue winding the tape onto the Take-up Reel until all the slack has been taken up.
   * Even if there is a little slack, the motor in the Tension Arm will automatically adjust the tape to the correct tension. But if there is excessive slack or if the tape is not correctly positioned, the motor will not start. In such cases, re-load or take up all the slack.

Using 10-1/2 in (26 cm) reels

1. Place the standard accessory Reel Adaptor Hubs on the Reel Tables.
2. Plastic Reels: Align the grooves on the Hubs with the dot on the Reel Tables.
   Metallic Reels: Align the grooves but do not align them with the dot.
3. Pull out the Built-in Retainers and turn to left or right to lock.
4. Turn the Inner Rings clockwise to lock.
5. Fit the reels on the Hubs.
6. Turn the Outer Rings clockwise to lock.
7. Follow steps 3 to 5 of "Using 7 in (17 cm) or 5 in (12 cm) reels".

OPERATIONS

RECORDING



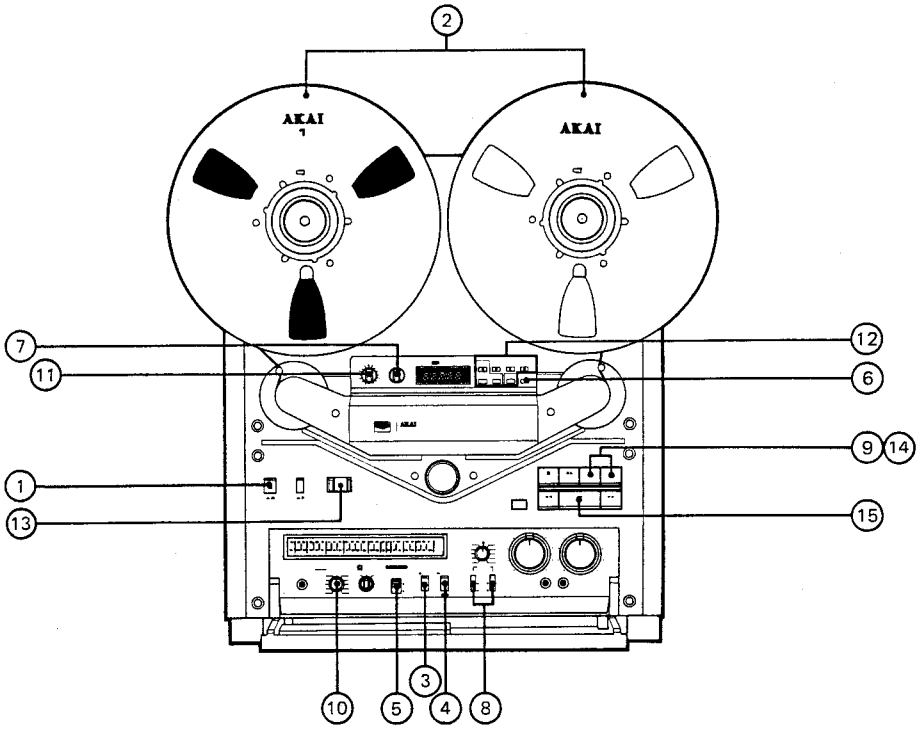
Confirm the following before attempting recording:

- Components are properly connected.
- The TIMER START selector is set to OFF.
- The Power Cord is properly connected.
- The REEL SIZE selector is set to the proper position. Refer to CONTROLS.
- The PITCH CONTROL is set to the center click position.
- The line output level of the deck matches the playback level of the external amplifier. Refer to HOW TO SET THE OUTPUT CONTROL on page 11.

1. Turn on all the external components and depress the POWER switch to turn on the deck.
2. Load a tape. Refer to TAPE LOADING on page 7.
3. Set the TAPE SPEED selector to the desired speed. Refer to TAPE RECORDING TIME on page 6.
4. Set the TAPE SELECTOR. Refer to STANDARD REFERENCE AND RECOMMENDED TAPES on page 6.
5. Set the BIAS ADJUST control. Refer to BIAS ADJUSTMENT on page 6.
6. For stereo recording: Set both the "L" and the "R" TRACK SELECTORs to ON.
   For monaural recording: Set the "L" TRACK SELECTOR to ON and the "R" TRACK SELECTOR to OFF for recording on tracks 1 → 4.
   Refer to 4-TRACK STEREO RECORDING AND PLAYBACK SYSTEM and 4-TRACK MONAURAL RECORDING AND PLAYBACK SYSTEM on page 7.
7. Set the MONITOR selector to SOURCE to monitor the source signals.
8. Depress the COUNTER RESET button and reset the Counter to "0:00:00" for easy tape indexing.
9. Set the Reverse (REV) SELECTOR. Refer to REVERSE SELECTOR on page 10.
10. Depress the Recording [REC (●)] and PAUSE (▮▮) buttons simultaneously to put the deck into recording standby mode.
11. Play back the source equipment.
12. While observing the LED Bar Meter, adjust the MIC or LINE Recording Level controls. Adjust so that the VU levels exceed only by little the 0 VU. Refer to CONTROLS Nos. 23 and 24.
13. When the optimal recording levels have been set, set the source equipment ready for playback from the beginning.
14. Play back the source equipment and depress the Forward (►) button for forward recording or the Reverse (◄) button for reverse recording.
15. Set the MONITOR selector to TAPE to monitor the just recorded signals.
16. Adjust the MIC or LINE Recording Input Level controls so that VU levels are same as when the MONITOR selector was set to SOURCE (little over 0 VU).
17. Depress the AUTO MUTE button just once and no recording will be made on the tape for 4 seconds. The REC (●) button's indicator will flash on and off at one second interval. After the 4 seconds, the deck will go into recording standby mode. If the button is depressed again before the 4 seconds are up, the deck will go into recording mode.
    Depress and keep depressing the AUTO MUTE button and no recording will be made on the tape for as long as the button is held depressed. Time the blank portion with the REC (●) button's indicator. When the button is released, the deck will go into recording standby mode.
18. For Auto Time Counter System operations, refer to AUTO TIME COUNTER SYSTEM on page 11.
19. To manually change the direction of tape travel, depress the direction button [Forward (►) or Reverse (◄)] opposite to the direction in which the tape is traveling.
20. To release the recording mode, depress the Stop (■) button.
21. For monaural recording: Set the "L" TRACK SELECTOR to OFF and the "R" TRACK SELECTOR to ON for recording on tracks 3 → 2.
    Repeat steps 7 to 20.

* Automatic stop will be effected at the end of tape or reverse recording.

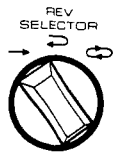
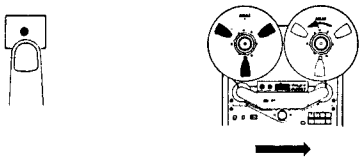
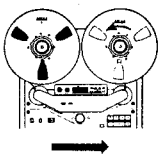
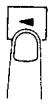
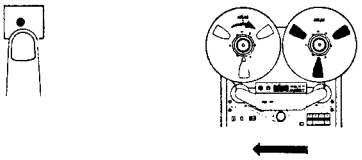
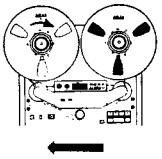
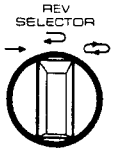
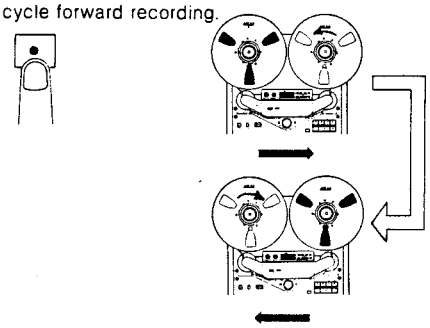
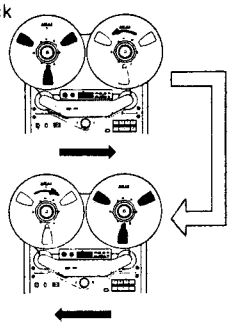
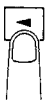
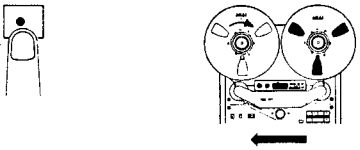
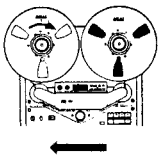
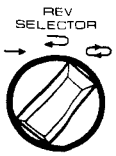
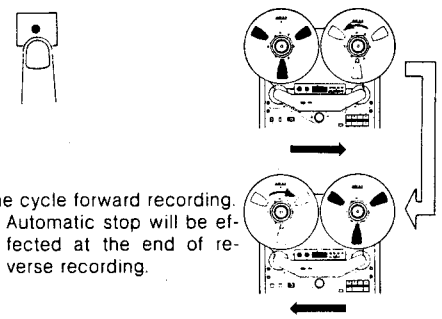
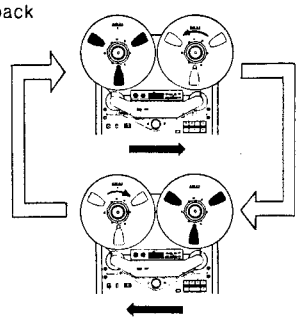
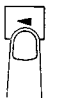
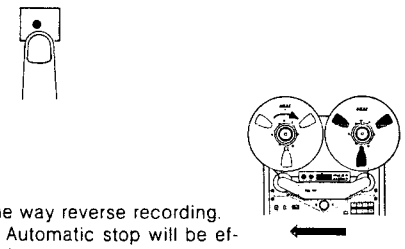
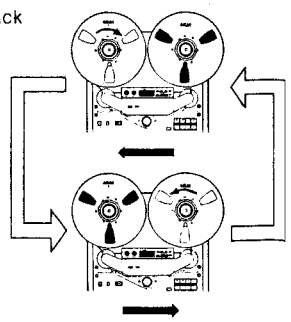
PLAYBACK



Confirm the following before attempting playback operation:

- Components are properly connected.
- The TIMER START selector is set to OFF.
- The Power Cord is properly connected.
- REEL SIZE selector is set to the proper position. Refer to CONTROLS No. 11.
- The PITCH CONTROL is set to the center click position.
- The line output level of the deck matches the playback level of the external amplifier. Refer to HOW TO SET THE OUTPUT CONTROL on page 11.

1. Turn on all the components and depress the POWER switch to turn on the deck.
2. Load the tape. Refer to TAPE LOADING on page 7.
3. Set the TAPE SPEED selector to the speed at which the tape was recorded.
4. Set the TAPE SELECTOR. Refer to STANDARD REFERENCE AND RECOMMENDED TAPES on page 6.
5. Set the MONITOR selector to TAPE.
   * Set the amplifier's Tape Monitor selector to Tape when listening through speakers.
6. Depress the COUNTER RESET button and set the Counter to "0:00:00" for easy tape indexing.
7. Set the Reverse (REV) SELECTOR. Refer to REVERSE SELECTOR on page 10.
8. Stereo playback: Set the "L" and the "R" TRACK SELECTOR to ON.
   Monaural playback: Set the "L" TRACK SELECTOR to ON and the "R" TRACK SELECTOR to OFF for monaural playback of track 1 → 4.
   Set the "L" TRACK SELECTOR to OFF and the "R" TRACK SELECTOR to ON for monaural playback of track 3 → 2.
   Refer to 4-TRACK STEREO RECORDING AND PLAYBACK SYSTEM and 4-TRACK MONAURAL RECORDING AND PLAYBACK SYSTEM on page 7.
9. Depress the Forward (►) button for forward playback or the Reverse (◄) button for reverse playback.
   * The indicator will light to confirm direction.
10. Adjust the OUTPUT control to adjust the headphone output level.
    * When listening through speakers, adjust the Volume control of the amplifier. Refer to HOW TO USE THE OUTPUT CONTROL on page 11.
11. Adjust the PITCH CONTROL if desired.
12. For Auto Time Counter System operations, refer to AUTO TIME COUNTER SYSTEM on page 11.
13. For Cue/review operation, refer to CUE/REVIEW operation on page 11.
14. To manually change the direction of tape travel, depress the direction button [Forward (►) or Reverse (◄)] opposite to the direction in which the tape is traveling.
15. Depress the Stop (■) button to release the playback mode.
    * Automatic stop will be effected at the end of the tape.

REVERSE SELECTOR		RECORDING	PLAYBACK
ONE WAY 		One way forward recording. 	One way forward playback 
		One way reverse recording. 	One way reverse playback 
ONE CYCLE 		One cycle forward recording. 	One cycle forward playback 
		One way reverse recording 	One way reverse playback 
CONTINUOUS 		 One cycle forward recording. * Automatic stop will be effected at the end of reverse recording.	Continuous playback 
		 One way reverse recording. * Automatic stop will be effected at the end of reverse recording.	Continuous playback 

HOW TO USE THE OUTPUT CONTROL

When an external amplifier is employed, it is necessary to match the line output level of the deck with the playback level of the external amplifier so that when a tape is played back the amplifier's Volume control need not be readjusted.

1. Consider the listening level of FM broadcast through the amplifier as standard.
2. Set the MONITOR selector of the deck to TAPE and playback a tape.
3. Set the Monitor selector of the amplifier to Tape and listen to the tape.
4. If the listening level is different from that of the standard listening level, adjust the deck's OUTPUT control.
5. Set the Monitor selector of the amplifier to Source and listen to the standard listening level.
6. If the listening level from the tape is still different from the standard listening level, adjust the OUTPUT control again.
7. Repeat steps 5 and 6 until there is no difference.

CUE/REVIEW OPERATION

To find a beginning of section, etc.:

1. Anytime during playback, slide and lock the CUE/REVIEW lever in the direction of the arrow.
2. Depress the Rewind (◄◄) or the Fast Forward (►►) button. The tape will be played back very quickly in the direction of the arrows.
3. When the desired section is reached, depress the Forward (►) or the Reverse (◄) button, whichever is lit, to resume normal playback.
4. Depress the CUE/REVIEW lever.

AUTO TIME COUNTER SYSTEM

- MEMORY Button: Engage this button (its indicator will light) only during setting the time for Memory Reverse operation. During all other operations, make sure that this button is not engaged (the indicator is off).
- MEMORY REVERSE Indicator: Confirm that this indicator is lit only during Memory Reverse or Auto Set Reverse operation. The LAP, COUNT UP and AUTO "0" STOP buttons can not be engaged while this indicator is lit.

1. To show tape travel in normal time

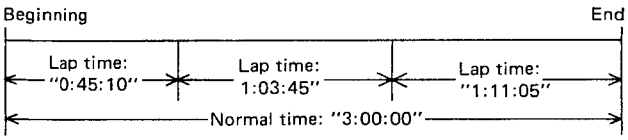
- Confirm that the LAP button is not engaged (its indicator is off). If it is, depress the button and the indicator will go off.
- During tape travel, the Counter will show the time length of tape travel. This is called the "normal time".
- To reset the Counter to "0:00:00", depress the COUNTER RESET button.

2. COUNT UP button

- When the tape is traveling in the forward direction, the normal time shown on the Counter will be increased.
- When the tape is traveling in the reverse direction, the normal time shown on the Counter will be decreased.
- To make the Counter increase the time when the tape is traveling in the reverse direction, depress the COUNT UP button. Depress this button, before depressing the Reverse (◄) button.

► : Tape traveling in forward direction
◄ : Tape traveling in reverse direction
►►: Fast forward mode
◄◄ : Rewind mode

Fig. A LAP Button

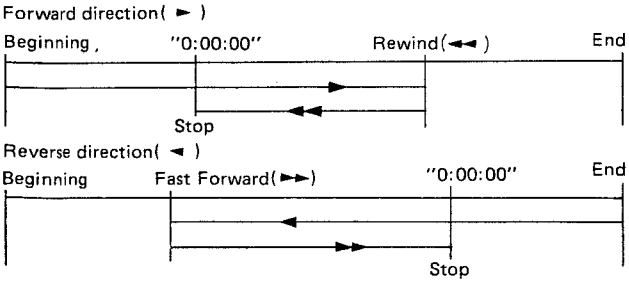


3. LAP Button (Fig. A)

- Use to find the time length of a section during tape travel.

a) If the tape is to travel in the reverse direction, depress the COUNT UP button first.
b) Anytime during tape travel, depress the LAP button. Its indicator will light and the Counter will be set to show lap time.
c) Depress the COUNTER RESET button to reset the Counter to "0:00:00".
d) The Counter will now show the time of tape travel from the point at which the Counter was set to "0:00:00".
e) Depress the LAP button again and the Counter will show the time length of tape travel from the beginning of tape (i.e. the normal time).

Fig. B AUTO "0" STOP Button



4. AUTO "0" STOP button (Fig. B)

- The tape will be stopped at "0:00:00" whether the Counter is set to show normal time or lap time.
- If the tape is to travel in the reverse direction, depress the COUNT UP button.
- Confirm that the CUE/REVIEW lever is not engaged.

a) Depress the AUTO "0" STOP button. Its indicator will light.
b) Anytime during tape travel, depress the COUNTER RESET button to reset the Counter to "0:00:00".
c) If the tape is traveling in the forward direction, depress the Rewind (◄◄) button. The tape will be rewound to "0:00:00" and stop.
d) If the tape is traveling in the reverse direction, depress the Fast Forward (►►) button. The tape will be fast forwarded to "0:00:00" and stop.

Changing direction of tape travel from forward to reverse:

- With the Auto Time Counter System, there are two ways of changing the direction of tape travel from forward to reverse.
- The following operations can not be engaged if the LAP and/or COUNT UP button is engaged.
- The sensing tape(s) takes priority over Memory Reverse and Auto Set Reverse operations.
- Set the REV SELECTOR to ⊃ or ⊂ .

Fig. C Memory Reverse

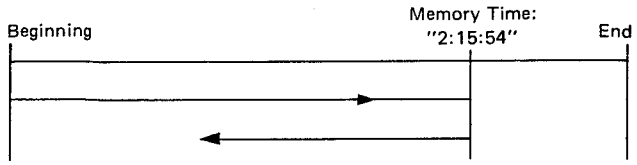


Fig. D Auto Set Reverse

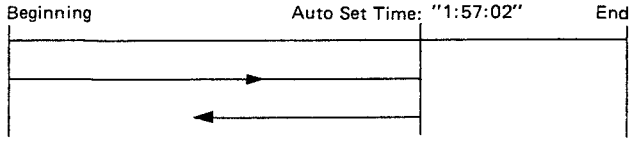


Fig. E
REV SLECTOR: ⊂⊃

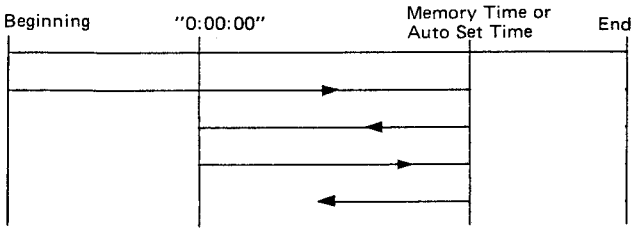
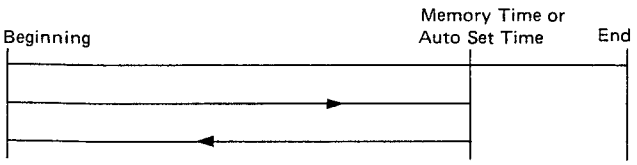


Fig. F
REV SELECTOR: ⊃



5. Memory Reverse operation (Fig. C)

- To change the direction of tape travel from forward to reverse at a preset time.

a) Depress the MEMORY button. Its indicator will light.
b) Depress the SELECT/CLEAR button. The HOUR display will flash on and off.
c) Depress the SELECT/CLEAR button and set the hour.
d) Depress the SET button and the second digit of the Minute (MIN) display will flash on and off.
e) Depress the SELECT/CLEAR button and set the minutes.
f) Depress the SET button and the first digit of the MIN display will flash on and off.
g) Depress the SELECT/CLEAR button and set the minutes.
h) Depress the SET button and the second digit of the Second (SEC) display will flash on and off.
i) Depress the SELECT/CLEAR button and set the seconds.
j) Depress the SET button and the first digit of the SEC display will flash on and off.
k) Depress the SELECT/CLEAR button and set the seconds.
l) Depress the SET button to memorize the time set. The MEMORY REVERSE indicator will light to indicate that the time has been memorized. This time is called the "memory time".
m) Depress the MEMORY button. Its indicator will go off and the Counter will revert to showing normal time. The MEMORY REVERSE indicator will remain lit.
n) To confirm anytime the memory time, depress the MEMORY button. The memory time will reappear on the Counter. Do not forget to depress the button again to revert the Counter to showing normal time. The Memory Reverse operation can take place only when the Counter is set to show the normal time.

- During tape travel, when the normal time reaches the memory time, the direction of tape travel will automatically change from forward to reverse.

6. Auto Set Reverse operation (Fig. D)

- The direction of tape travel will automatically change from forward to reverse when the AUTO SET button is depressed.
- The Memory Reverse operation must be canceled before the Auto Set Reverse operation will take place. Refer to "For both Memory Reverse and Auto Set Reverse operation".
- Anytime during tape travel, depress the AUTO SET button. The MEMORY REVERSE indicator will light. The direction of tape travel will change from forward to reverse.
  The time at which the direction of tape travel is changed is called the "Auto set time".
- To confirm the auto set time, depress the MEMORY button. Do not forget to depress the button again to revert the Counter to showing normal time.

For both Memory Reverse and Auto Set Reverse operations:

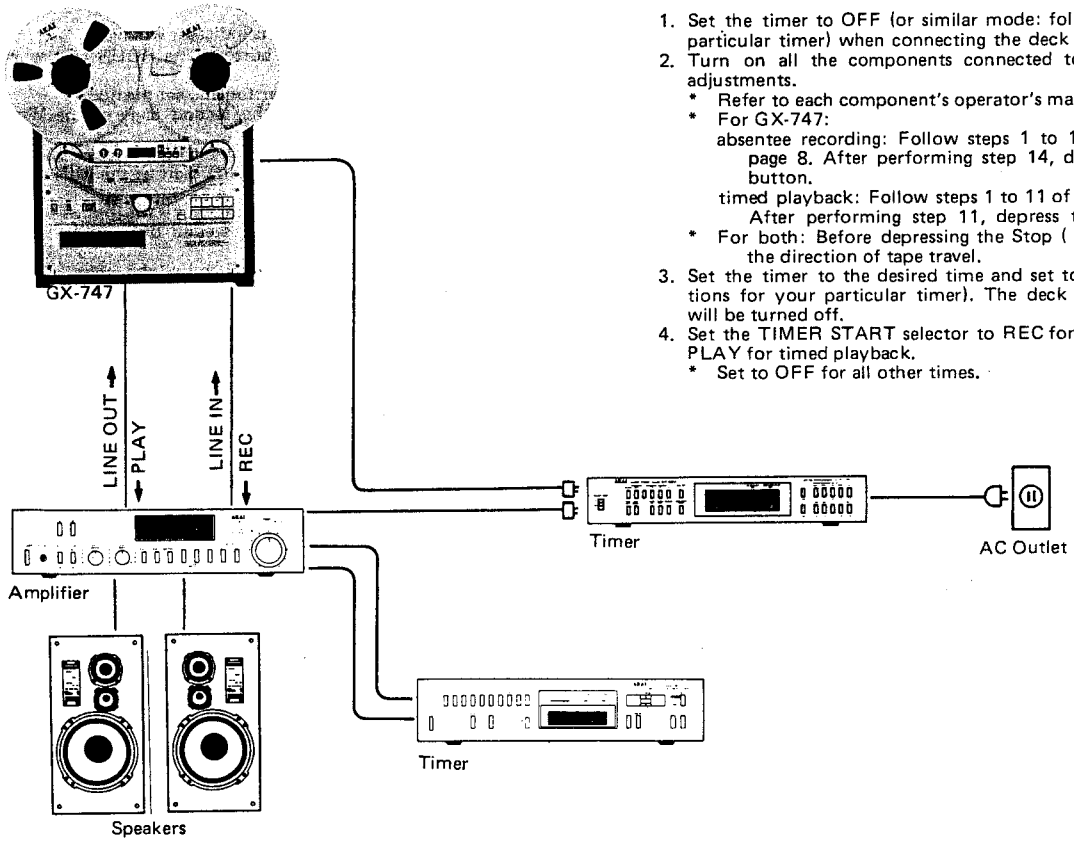
- If the REV SELECTOR was set to ⊂⊃, when the tape reaches "0:00:00" from the reverse direction, the direction of tape travel will be changed from reverse to forward. When the tape reaches again the memory time or the auto set time, the direction of tape travel will be changed from forward to reverse. This operation will be repeated until the Stop (■) button is depressed or until the memory time or the auto set time is canceled. (Fig. E)
  * Does not apply during recording. Recording will take place as in ⊃ .
- **To cancel the memory time or the auto set time**
  Depress the MEMORY button and then the SELECT/CLEAR button. The MEMORY REVERSE indicator will go off to indicate that the preset time is canceled. Reset or depress the MEMORY button again to revert the Counter to showing normal time.
- If the REV SELECTOR was set to ⊃, after the direction of tape travel is changed from forward to reverse at the memory time or the auto set time, the tape will continue to travel in the reverse direction until the end of the tape. (Fig. F)

SOUND MIXING

Independent LINE and microphone (MIC) Recording Level controls and input jacks enable signals from microphones and from line sources to be blended and recorded simultaneously on the tape.
Connect a microphone(s) to the MIC jack(s) and connect the desired source to the LINE IN jacks. Follow the recording procedure and adjust both the LINE and MIC Recording Level controls.

* Line and DIN mixing can also be accomplished if the model is equipped with a DIN jack. In this case, the DIN input level is adjusted with the MIC Recording Level control.

ABSENTEE RECORDING AND TIMED PLAYBACK



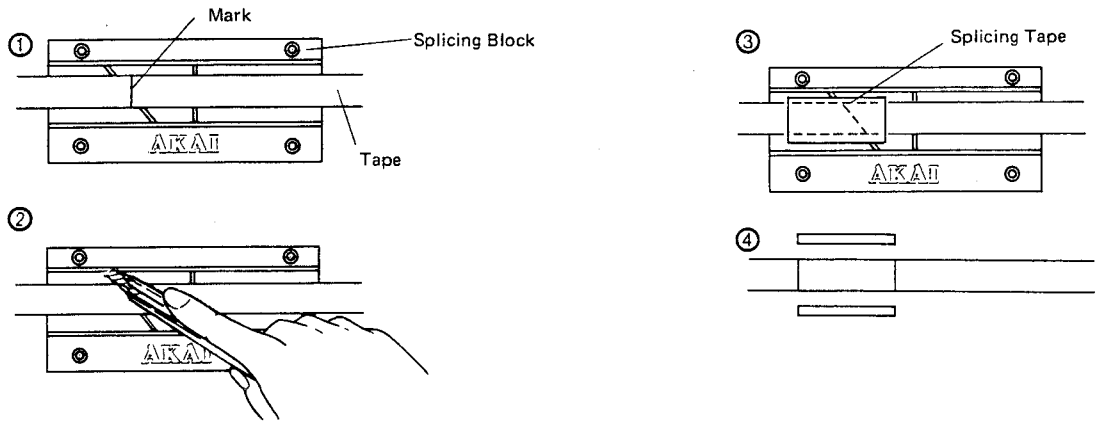
1. Set the timer to OFF (or similar mode: follow directions for your particular timer) when connecting the deck and other components.
2. Turn on all the components connected to the timer and make adjustments.
   * Refer to each component's operator's manual.
   * For GX-747:
     absentee recording: Follow steps 1 to 14 of RECORDING on page 8. After performing step 14, depress the Stop (■) button.
     timed playback: Follow steps 1 to 11 of PLAYBACK on page 9. After performing step 11, depress the Stop (■) button.
   * For both: Before depressing the Stop (■) button, re-confirm the direction of tape travel.
3. Set the timer to the desired time and set to TIMER (follow directions for your particular timer). The deck and other components will be turned off.
4. Set the TIMER START selector to REC for absentee recording and PLAY for timed playback.
   * Set to OFF for all other times.

TAPE ERASING

Any signals previously recorded on the tape will be automatically erased as a new recording is made. For erasing only, thread the tape and set the deck to recording mode. No plugs should be connected to the LINE IN jacks and the MIC and LINE Recording Level Controls should be kept at minimum. For quick and complete erasure, a bulk tape eraser is recommended.

* Be sure to set the "L" and "R" TRACK SELECTOR to the correct positions.

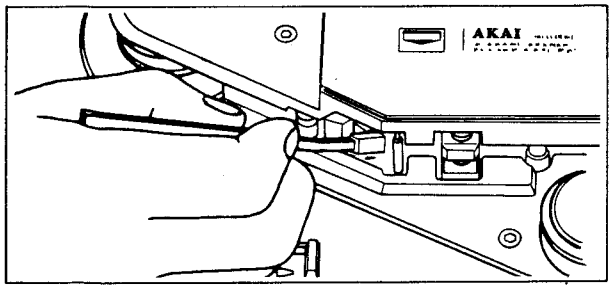
TAPE EDITING

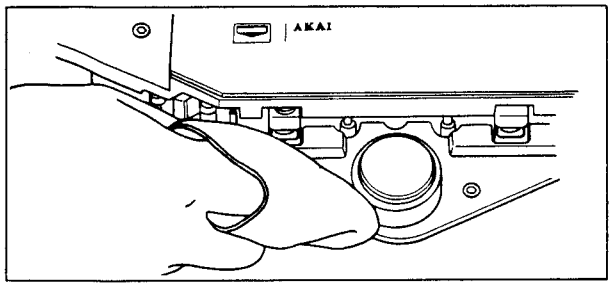


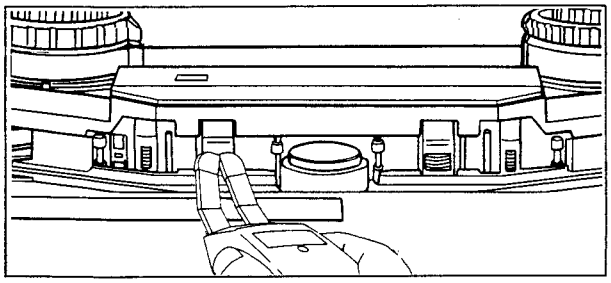
1. Perform the Cue/review operation and find the desired section. Mark the place with a dermatograph available on the market.
2. After marking the desired connection point, cut the tape at the mark using the standard accessory Tape Splicing Block.
3. Joint the cut tapes by attaching the Splicing Tape and rub thoroughly with finger to prevent the Splicing Tape from coming off.
4. Tape connection is completed by cutting the excessive portion of splicing tape with a cutter.

* When a recorded tape has torn apart due to wear, etc., match the ends and connect them using the Splicing Tape.
* The tape may be cut with scissors, but it will adversely affect recording when magnetized scissors are used.

MAINTENANCE







Turn off the POWER switch.

HEAD BLOCK CLEANING

HEADS

The GX heads do not require a great deal of cleaning. However, if old tapes or tapes which have been spliced are used, GX head cleaning is recommended.

Clean recording, playback, and erase heads with a cotton swab stick which has been dipped in AKAI cleaning fluid from the Head Cleaning Kit HC-550P.

PINCH WHEEL AND CAPSTAN

If foreign matter is allowed to accumulate on the pinch wheel and capstan, these particles will come off on the tape causing deterioration of sound quality. Oil adhering to the capstan also causes irregularity in tape transport. Therefore, it is also recommended that these parts be wiped clean periodically. Use AKAI cleaning fluid or alcohol.

* Do not use chemicals such as chlorothane, etc. for head block cleaning as the rubber parts will deteriorate.

HEAD DEMAGNETIZING

Prolonged use of the deck will gradually build up residual magnetism on the heads. The effect of magnetization is that it causes a considerable drop in high frequency response and introduces noise into your recordings. It is therefore, recommended that head demagnetizing be performed periodically. This can be accomplished with a head demagnetizer by bringing the prongs of the demagnetizer close to the heads and making several small circular motions overall head surface areas as well as the head housing.

TROUBLE SHOOTING

The conditions listed below do not indicate mechanical failure of the deck. If your deck exhibits any of these conditions, check for trouble as indicated below.

SYMPTOM	CAUSE	REMEDY
Loss of sensitivity and tone quality.	* Dirty Erase head. * Wrong side of tape facing the heads. * TAPE SELECTOR is set incorrectly. * Magnetized head.	* Refer to HEAD BLOCK CLEANING. * Reload. * Set correctly. * Refer to HEAD DEMAGNETIZING.
No recording or playback.	* Incorrect setting of controls and/or connections wrong. * "L" and "R" TRACK SELECTOR set incorrectly. * OUTPUT control at minimum.	* Refer to CONTROLS and CONNECTIONS FOR RECORDING AND PLAYBACK. * Reset. * Adjust.
Irregularity in tape transport.	* Oil or magnetic particles adhering to the Capstan or Pinch Wheel. * Sticky or dirty tape surface. * Improperly loaded tape.	* Refer to HEAD BLOCK CLEANING. * Change tape. * Refer to TAPE LOADING.
Tape will not run.	* Power is not being supplied. * Not enough tension. * Twisted or sticky tape.	* Connect. * Take-up slack. * Change tape.
Previously recorded program will not erase.	* Erase head is dirty.	* Refer to HEAD BLOCK CLEANING.
Distorted or noisy sound.	* Recording level is too high. * Incorrect setting of external controls and/or connections wrong.	* Refer to RECORDING. * Set and/or connect correctly.

Should there be a problem, write down the model name, serial numbers and all pertinent data regarding warranty coverage as well as a clear description of the existing trouble, and contact your nearest authorized Akai Service Station or the Service Department of Akai Company, Tokyo, Japan.

SPECIFICATIONS

Track System	4 Track 2 Channel Stereo System
Reel Capacity	Up to 10" reel
Heads	GX head for recording x 2 GX head for playback x 2 Erase head x 2
Motors	AC Servo motor for capstan drive x 1 AC Eddy current motor for reel drive x 2
Tape Speed	19 cm/s ±0.8% (7-1/2 ips.) 9.5 cm/s ±1.0% (3-3/4 ips.)
Wow & Flutter	Less than 0.03% WRMS, 0.07% DIN 45500 at 19 cm/s Less than 0.04% WRMS, 0.09% DIN 45500 at 9.5 cm/s
Tape Winding Time	75 sec. using 360 m (1,200 ft.) Tape
Frequency Response	25 to 33,000 Hz ±3 dB at 19 cm/s 25 to 26,000 Hz ±3 dB (0 VU) 25 to 25,000 Hz ±3 dB at 9.5 cm/s 25 to 15,000 Hz ±3 dB (0 VU)
Signal to Noise Ratio	Better than 65 dB at 19 cm/s DIN 45500
Harmonic Distortion	Less than 0.4% at 19 cm/s
Input	MIC: 0.25 mV (input impedance 5.0 kohms) Required microphone impedance: 600 ohms Line: 70 mV (input impedance 100 kohms)
Output	Line: 0.775V at 0 VU Required load impedance: more than 20 kohms Phone: 100 mV/8 ohms at 0 VU
DIN	Input: 2 mV (input impedance 10 kohms) Output: 0.3V Required load impedance: more than 20 kohms
Power Requirements	120V 60 Hz for U.S.A. & Canada 220V 50 Hz for Europe except U.K. 240V 50 Hz for U.K. & Australia 110V/120V/220V/240V, 50/60 Hz switchable for the other countries.
Dimensions	440(W) x 483(H) x 256(D) mm (17.3 x 19.0 x 10.1 inches)
Weight	21 kg (46.4 lbs)

STANDARD ACCESSORIES

Empty Reel	1
Connection Cords	1 set
Sensing Tape Kit	1
Reel Adaptor	2
Operator's Manual	1

* For improvement purposes, specifications and design are subject to change without notice.